

Rec'd PC	TATO 25	JUN 2004
----------	---------	----------

DC 7	For r	eceiving the ce use only		
ICI				
	International Application	No.		
REQUEST				
	International Filing Date	:		
The undersigned requests that the present		l		
international application be processed	Name of receiving Offic	ee and "PCT International Application"		
according to the Patent Cooperation Treaty.				
	Applicant's or agent's t (if desired) (12 characte	ile reference rs maximum) GFI/102 PCT		
Box No. I TITLE OF INVENTION				
METHODS TO ENGINEER MAMMALIAN-TYPI	E CARBOHYDRAT	E STRUCTURES		
	on is also inventor			
Name and address: (Family name followed by given name; for a legal en The address must include postal code and name of country. The country of	tity, full official designation.	Telephone No.		
The address must include postal code and name of country. The country of Box is the applicant's State (that is, country) of residence if no State of residen	the address indicated in this nce is indicated below.)			
		Facsimile No.		
WILDT, Stefan 32 Parkhurst Street		Teleprinter No.		
Lebanon, New Hampshire 03766		Teleprinter 140.		
US	+ ,	Applicant's registration No. with the Office		
State (that is, country) of nationality: DE	State (that is, country) US	of residence:		
	ed States except States of America	the United States of America only the States indicated in the Supplemental Box		
Box No. III FURTHER APPLICANT(S) AND/OR (FURT	THER) INVENTOR(S)			
(F) Glaved by given name: for a legal ex	tity full official designation.	This person is:		
Name and address: (ramin name jouowed by given tunne, joi tegate.) The address must include postal code and name of country. The country of Box is the applicant's State (that is, country) of residence if no State of reside.	applicant only			
MIELE, Robert Gordon		applicant and inventor		
4 Renihan Meadows	,	inventor only (If this check-box		
Lebanon, New Hampshire 03766		is marked, do not fill in below.)		
US		Applicant's registration No. with the Office		
	State (that is, country) of residence		
State (that is, country) of nationality: US	US State (that is, country)	/ Of Testuence.		
This person is applicant for the purposes of:	ted States except States of America	the United States of America only the States indicated in the Supplemental Box		
Further applicants and/or (further) inventors are indicated	on a continuation sheet.			
Box No. IV AGENT OR COMMON REPRESENTATIV	E; OR ADDRESS FOI	R CORRESPONDENCE		
The person identified below is hereby/has been appointed to ac of the applicant(s) before the competent International Authorities	t on behalf es as:	agent common representative		
Name and address: (Family name followed by given name; for a legal en The address must include postal code and name of	country.)	Telephone No. 212.596.9000		
HALEY, James F., Jr.; GUNNISON, Jane T.; RUSK MANGASARIAN, Karen; LIANG, Stanley D.;BROW	Facsimile No. 212.596.9090			
JONEJA, Bhavana	Teleprinter No.			
1251 Avenue of the Americas New York, New York 10020	Agent's registration No. with the Office			
US		rigent stegionation to with the criter		
Address for correspondence: Mark this check-box when	re no agent or common re	presentative is/has been appointed and the		
Address for correspondence: Mark this check-box when space above is used instead to indicate a special address t	o which correspondence	groute of some		

Form PCT/RO/101 (first sheet) (March 2001; reprint July 2002)

See Notes to the request form

•		
	AND/OR (FURTHER)	1
If none of the following sub-boxes is used, this sheet should no	ot be included in the req	quest.
Name and address: (Family name followed by given name; for a legal enti The address must include postal code and name of country. The country of the Box is the applicant's State (that is, country) of residence if no State of residence	he address indicated in this !	This person is: applicant only
NETT, Juergen Hermann 11 Rocky Hill Road # 211 Enfield, New Hampshire 03748		applicant and inventor inventor only (If this check-box is marked, do not fill in below.)
US		Applicant's registration No. with the Office
State (that is, country) of nationality: DE	State (that is, country) US) of residence:
for the purposes of: States the United S	d States except tates of America	the United States of America only the Supplemental Box
Name and address: (Family name followed by given name; for a legal ent The address must include postal code and name of country. The country of the Box is the applicant's State (that is, country) of residence if no State of resident	he address indicated in this	This person is: applicant only
DAVIDSON, Robert C. 37 Landing Road # 2		applicant and inventor inventor only (If this check-box is marked, do not fill in below.)
Enfield, New Hampshire 03748 US	1	Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country	o) of residence:
This person is applicant for the purposes of: **All designated States** all designated the United States**	d States except tates of America	the United States of America only the States indicated in the Supplemental Box
Name and address: (Family name followed by given name; for a legal ent The address must include postal code and name of country. The country of it Box is the applicant's State (that is, country) of residence if no State of residence	ne aaaress inaicatea in inis	This person is: applicant only applicant and inventor inventor only (If this check-box is marked, do not fill in below.)
		Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country	y) of residence:
This person is applicant all designated for the purposes of:	d States except tates of America	the United States of America only the Supplemental Box
Name and address: (Family name followed by given name; for a legal ent The address must include postal code and name of country. The country of t Box is the applicant's State (that is, country) of residence if no State of residen	he address indicated in this	This person is: applicant only
		applicant and inventor inventor only (If this check-box is marked, do not fill in below.)
		Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country	y) of residence:
This person is applicant all designated states all designated the United St	d States except tates of America	of America only the States indicated in the Supplemental Box
Further applicants and/or (further) inventors are indicated of	on another continuation	n sheet.

Form PCT/RO/101 (continuation sheet) (March 2001; reprint July 2002)

See Notes to the request form



Box	No.	V DESIGNATION OF STATES	Mark the applicable check-boxes below,	at teast one must be marked.
The	follo	owing designations are hereby made und	der Rule 4.9(a):	•
Ke	Rions	al Patent	Gambia KE Kenya LS Lesotho MW	Malawi, MZ Mozambique, SD Sudan,
•		SL Sierra Leone, SZ Swaziland, TZ U State which is a Contracting State of specify on dotted line)	Inited Republic of Tanzania, UG Uganda, Z the Harare Protocol and of the PCT (if oti	M Zambia, ZW Zimbabwe, and any other her kind of protection or treatment desired,
	EA	RU Russian Federation, TJ Tajikistan Patent Convention and of the PCT	, TM Turkmenistan, and any other State w	Z Kazakhstan, MD Republic of Moldova, hich is a Contracting State of the Eurasian
	EP	Republic, DE Germany, DK Denmarl IE Ireland, IT Italy, LU Luxembourg, I any other State which is a Contracting	k, EE Estonia, ES Spain, FI Finland, FR I MC Monaco, NL Netherlands, PT Portugal, 3 State of the European Patent Convention	and Liechtenstein, CY Cyprus, CZ Czech France, GB United Kingdom, GR Greece, SE Sweden, SK Slovakia, TR Turkey, and and of the PCT
		GA Gabon, GN Guinea, GQ Equator TD Chad, TG Togo, and any other Sta of protection or treatment desired, spec	ial Guinea, GW Guinea-Bissau, ML Maliate which is a member State of OAPI and a cify on dotted line)	Congo, CI Côte d'Ivoire, CM Cameroon, MR Mauritania, NE Niger, SN Senegal, Contracting State of the PCT (if other kind
Na	tiona	al Patent (if other kind of protection or	treatment desired, specify on dotted line):	~
K	AE I	United Arab Emirates 🔟		NZ New Zealand
X	AG A	Antigua and Barbuda	HR Croatia	M OM Oman
	AT.	Albania	HU Hungary	PH Philippines
K	AM A	Armenia		PL Poland
K	AT .	Austria	IL Israel	PT Portugal
	AU A	Australia	IN India	RU Russian Federation
X	AZ .	Azerbaijan	IS Iceland	
			JP Japan	M cn cudes
X	BB 1	Barbados 💆	KE Kenya	SE Sweden
K	BG 1	Bulgaria	KG Kyrgyzstan	SG Singapore
X	BR 1	Brazil	KP Democratic People's Republic	SI Slovenia
K	BY I	Belarus	VD Demublic of Vorce	SK Slovakia
•		TO I	V7 Varakhetan	SL Sierra Leone
X	CA	Canada & LI Switzerland and Liechtenstein		TJ Tajikistan
K	CH &	& LI Switzeriand and Electronistem	IV Sri Lanka	TM Turkmenistan
			LR Liberia	IN Tunisia
	CO		LS Lesotho	
	CR	Costa Rica	IT Lithuania	TT Trinidad and Tobago
	CU	Czech Republic	LU Luxembourg	
	CZ	Germany	LV Latvia	TZ United Republic of Tanzania
K	DE (Germany	MA Morocco	
			MD Republic of Moldova	UG Uganda
	DIMI :	Dominica Algeria		S US United States of America
	DZ .	Algeria	MG Madagascar	
	EC .	Estania 🔀	MK The former Yugoslav Republic of	₩ UZ Uzbekistan
K	EE .	Spain	Macedonia	VN Viet Nam
EZI DKI	ES	Spain	MN Mongolia	XV Yugoslavia
_		United Kingdom		ZA South Africa
X		Omica izma	MX Mexico	
	GD (Grenada 📉	MZ Mozambique	ZW Zimbabwe
	GE (Georgia	NO Norway	
Ch	eck-b	oxes below reserved for designating Sta	tes which have become party to the PCT	after issuance of this sheet:
	VÇ	Saint Vincent and the Grenadine 🔣	SC Seychelles	. 🔲
ñ				. 🗖

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the any designation with a splication of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Sheet	No			4		
SHEEL	INO.	٠	٠	•	٠	

Box No. VI PRIORITY				
he priority of the following	earlier application(s) is here			
Filing date	Number of earlier application		Where earlier application	
of earlier application (day/month/year)	07 02	national application: country or Member of WTO	regional application:* regional Office	international application: receiving Office
tem (1) 27 December 2001 (27.12.01)	60/344,169	us		
mem (2)				
em (3)				
tem (4)				
tem (5)			·	
	are indicated in the Supplemental ested to prepare and transmi			
Box No. VII INTERNAT	TIONAL SEARCHING All arching Authority (ISA)	UTHORITY If two or more International wo-letter code may be used		
ISA /	arlier search; reference to		r search has been carried	l out by or requested from th
Request to use results of e International Searching Auti Date (day/month/year)	hority):		ountry (or regional Office	
Box No. VIII DECLARA	TIONS			
The following declarations check-boxes below and indic	s are contained in Boxes No cate in the right column the n	os. VIII (i) to (v) (mark th number of each type of dec	ne applicable laration):	Number of declarations
Box No. VIII (i)	Declaration as to the ider			:
Box No. VIII (ii)	Declaration as to the app date, to apply for and be	plicant's entitlement, as a granted a patent	t the international filing	:
Box No. VIII (iii)	Declaration as to the ap date, to claim the priori	pplicant's entitlement, as ty of the earlier applicati	at the international filin on	g :
Box No. VIII (iv)	Declaration of inventors United States of Americ	ship (only for the purpose ca)	es of the designation of	the :
Box No. VIII (v)	Declaration as to non-pr	rejudicial disclosures or e	exceptions to lack of no	velty :

Form PCT/RO/101 (third sheet) (July 2002)

Sheet	Nia		ပ	,	

Box No. IX CHECK LIST; LANGUAGE (OF FILING	
This international application contains: (a) the following number of	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):	Number of items
sheets in paper form:	1. Tee calculation sheet	1
request (including declaration sheets) 5	2. original separate power of attorney	:
description (excluding	3. original general power of attorney	:
sequence listing part) : 71	4 Cl copy of general power of attorney; reference number,	
claims : 6	if any:	. :
abstract	5. statement explaining lack of signature	:
drawings - 40 Sub-total number of sheets : 131	6. priority document(s) identified in Box No. VI as item(s):	. :
sequence listing part of	7. translation of international application into (language):	
of sheets if filed in paper	8. separate indications concerning deposited microorganism or other biological material	
filed in computer readable form; see (b) below) The law tensor of sheets 131	o Consequence listing in computer readable form (indicate also type	e
Total number of sheets 131 (b) sequence listing part of description filed in	and number of carriers (diskette, CD-ROM, CD-R or other) (i) copy submitted for the purposes of international sear	ch
computer readable form (i) only (under Section 801(a)(i))	under Rule 13ter only (and not as part of the international application)	:
(ii) in addition to being filed in paper form (under Section 801(a)(ii))	 (ii) (only where check-box (b)(i) or (b)(ii) is marked in least column) additional copies including, where applicabe the copy for the purposes of international search und 	le,
Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (additional copies to be indicated under item 9(ii), in	Rule 13ter (iii) together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column	
right column):	10. Cother (specify): Check	
	Language of filing of the	
Figure of the drawings which should accompany the abstract:	international application: English	
Next to each signature, indicate the name of the person signature.	T, AGENT OR COMMON REPRESENTATIVE gning and the capacity in which the person signs (if such capacity is not obvious from	reading the request).
Bhavana Joneja		
	For receiving Office use only	
a leasint of the numerted		Drawings:
Date of actual receipt of the purported international application:		received:
Corrected date of actual receipt due to later timely received papers or drawings complet the purported international application:	but ing •	- -, , ,
4. Date of timely receipt of the required corrections under PCT Article 11(2):	L	not received:
5. International Searching Authority (if two or more are competent): ISA /	6. Transmittal of search copy delayed until search fee is paid	
	For International Bureau use only	
Date of receipt of the record copy by the International Bureau:		
•		

This sheet is no

FEE CALCULATION SHE

Applicant's or agent's

file reference Applicant

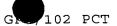
This sheet is not put of and does not count	as a sneet of the international application.
PCT	For receiving Office use only
FEE CALCULATION SHEET	· .
Annex to the Request	International Application No.
	Programme Control of the Control of
pplicant's or agent's le reference GFI/102 PCT	Date stamp of the receiving Office
pplicant	
WILDT, Stefan et al.	
ALCULATION OF PRESCRIBED FEES	240.00 ፲
TRANSMITTAL FEE	
SEARCH FEE International search to be carried out by (If two or more International Searching Authorities are competent to carry of search, indicate the name of the Authority which is chosen to carry out the in	nut the international
INTERNATIONAL FEE Basic Fee	
Where item (b) of Box No. IX applies, enter Sub-total number of Where item (b) of Box No. IX does not apply, enter Total number	of sheets)
b1 first 30 sheets	407.00 61
b2 101 x 9.00 = number of sheets in excess of 30	909.00 [62]
additional component (only if sequence listing part of descriping is filed in computer readable form under Section 801(a)(i), on both in that form and on paper, under Section 801(a)(ii)):	otion
	b3
fee per sheet =	1316.00 B
Add amounts entered at b1, b2 and b3 and enter total at B	1310:00 [12]
Designation Fees The international application contains95 designations.	110.00 5
5 x 88.00 =	440.00 D
number of designation fees amount of designation fee payable (maximum 5)	1756.00 🔟
Add amounts entered at B and D and enter total at I (Applicants from certain States are entitled to a reduction of 7.	5% of the
(Applicants from certain states are entitled to a reduction of reinternational fee. Where the applicant is (or all applicants are) so entitle to be entered at I is 25% of the sum of the amounts entered at B and I	
4. FEE FOR PRIORITY DOCUMENT (if applicable)	13.00 []
PLE	2711.00
5. TOTAL FEES PAYABLE	box
The designation fees are not paid at this time.	
MODE OF PAYMENT	I -
authorization to charge	cash coupons
	revenue stamps other (specify):
Alicheduo	OVINE
AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACC (This mode of payment may not be available at all receiving Offices)	Receiving Office: RD/ US Deposit Account No.: 06-1075
Authorization to charge the total fees indicated above.	24 December 2002 (24 12 02)
Target at the bound he marked only if the conditions for deposit acco	ounts -
of the receiving Office so permit) Authorization to charge, any deficient or credit any overpayment in the total fees indicated above.	Name: Bhavana Joneja

Signature:

Authorization to charge the fee for priority document. Form PCT/RO/101 (Annex) (January 2002; reprint July 2002)

See Notes to the fee calculation sheet

Attorney Docket No.



<u>:</u>			under 37 CFR 1.10	(if applicable)				·
· I.	C			(II applicable)			ber 2002	2 (24 12 02)
• [30790325US		24	Jeceiii		2 (24.12.02) Deposit
			ess Mail mailing number		cited with th	e United S	States Postal Serv	ice "Express Mail Post Office to
	1.4	comica under 3	7 CFR 1.10 on the date inc	dicated above and is address	sed to Axxix	ent Comm	nissioner for Pater	nts, WashingtonxDxCxxDxCxxDxXxxx
F	O. Box	2327, Arlingtor	n, Virginia 23202, Attn: E	BOX PCT, RO/US	"			
Γ		Barre	m > 1		٠ ــــــ	Zsı	uzsa A.	Schuster
· •		Signature of	person mailing correspond	dence	4 §	Typed or p	orinted name of p	erson mailing correspondence
11.	X N	lew Interna	tional Application					Earliest priority date
	TITLE	MERLIODS	TO ENGINEE	R MAMMALIAN-	TYPE		1	(Day/Month/Year)
		CABBOH	YDRATE STRUC	TURES				27 December 2001
								<u> </u>
	SC	REENING I	DISCLOSURE INFO	RMATION: In order t	o assist in	screening	g the accompar	nying international
		" for n	armoses of determining	whether a license for form is supplied. (Note: cl	reign tran	smitt ai s	moula and coul	d be granted and for
		ner puposes, tr	ne following information disclosed was not m	ade in the United States		,		1
	A.			elating to this invention.				Ì
	В	There is no p	one of the section of	n(s) contain subject mat	ter which	is related	to the inventi	on disclosed in the
1	C. X	attached inte	mational application. (NOTE: priority to the:	se applica	tions ma	y or may noi c	pe claimed on form
1		PCT/RO/10	1 (Request) and this li.	sting does not constitut	e a claim	for prior	rity.)	
	annli	ication no.	60/344,169		filed	on	27 Decemb	per 2001 (27.12.01)
		ication no.			filed	on		
'				<u></u>				to IIS andicated a destination
}	D. 🔀	The present	international applicatio	ontains additiona	l subject n	natter not	t found in the p	prior U.S. application(s) i dentified
		in paragraph	C. above. The addition	nal subject matter is fou	ind on pag	es LE	hrougho	
		and LDC	DES NOT ALTER	S. application to have b	SIDEKED een made	available	for inspection	al nature of the invention in a n by the appropriate
	•	defense ager	ncies under 35 U.S.C. 1	81 and 37 CFR 5.1. Se	e 37 CFR	5.15	•	
III.		Daenanse ta	an Invitation from	the RO/US. The foll	owing do	cument	(s) is(are) end	closed:
111.	The section An Extension of Time to File a Response							
İ	A. -		er of Attorney (General					
1	B. ⊢			01 1108				
	c. L	Replace	ement pages:					
		pages	<u> </u>	of the request (PCT/R	.O/101)	pages		of the figures
		pages		of the description		pages		of the abstract
		pages	<u></u>	of the claims		J		
	D. C	Submission	of Priority Documents	<u> </u>				
		Priority doc	ument		Priorit	y docum	ent	
	~ L			Calculation sheet form	PCT/RO/	101 anne	x	
L	E	rees as spe						
			D - 45 C - 45	DCT 01	Petition		A Seguena	ce Listing Diskette
IV.	L A	Request for	Rectification under	r PC 1 91 LJA	Petition		- A Sequent	- Disting Diskette
V.		ther (please	specify):					
								
					_,		_ T	
		Applic	cant		Bh		a Joneja	
	erson	•	cant		Bh		a Joneja d name of sign	
signir	erson ng this is the:	•	gy/Agent (Reg. No.)		Bh			
signir	ng this	AXXXX 47,	gy/Agent (Reg. No.)		Bh	Турес		

11.S. Department of Commerce: Patent and Trademark Office

Garage Land

PTO-1387 (Rev 12-1006)

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

BLACK BORDERS

□ BLACK BORDERS
☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
FADED TEXT OR DRAWING
BLURRED OR ILLEGIBLE TEXT OR DRAWING
SKEWED/SLANTED IMAGES
☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
☐ GRAY SCALE DOCUMENTS
☐ LINES OR MARKS ON ORIGINAL DOCUMENT
☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
OTHER.

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.